GREAT SALT LAKE MINERALS & CHEMICALS CORPORATION
A SUBSIDIARY OF GULF RESOURCES & CHEMICAL CORPORATION
P.O. BOX 1190 ○ 765 NORTH 10500 WEST ○ OGDEN, UTAH 84402 ○ TEL. (801) 731-3100 ○ TWX (910) 971-5910

File
~~ACT/057/002~~
Copy to Tom P.

April 14, 1983

ACT/057/002

Mr. Landlorn
USU Soils Lab
UMC 48
Utah State University
Logan, UT 84322

Dear Mr. Landlorn:

Per our conversation last week I am sending fourteen soil samples to you via UPS. These samples are to be used to determine how to replant two gravel pits now in use at Great Salt Lake Minerals & Chemicals Corporation. Attached with this letter is a copy of a letter received from Susan Linner, a Reclamation Biologist with the Utah State Department of Natural Resources. Her recommended analysis for the samples are:

Soil Texture
pH
Electrical Conductivity (EC)
Cation Exchange Capacity (CEC)
Sodium Absorption Ratio (SAR)
Percent Organic Matter
Available Potassium
Soluble Calcium
Magnesium
Sodium

To this, perhaps we should add:

Total Nitrogen
Phosphorous
Potassium

A purchase order will be issued by Mike Gale, our Purchasing Agent, to cover the cost of the analysis. The purchase order should read that the analysis should not exceed $500.00. If there is any problem with that, let me know.

The samples were screened at ten mesh on site. The percent +10 mesh on the samples is as follows:

Sample		% +10 Mesh
Little Mountain	A	58.3
	B	60.7
	C	53.9
	D	78.6
Promontory	A	66.8
	B	71.4
	C	65.4
	D	55.6
	E	69.9
	F	52.6
	G	55.9
	H	72.9
	I	27.1
	J	63.9

Our experience here at Great Salt Lake Minerals & Chemicals Corporation at this type of reclamation is limited. Any suggestions you may have would be appreciated.

Sincerely,

Larry Sower

Larry Sower

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

SOIL, PLANT and WATER
ANALYSIS LABORATORY
UMC 48

Great Salt Lake Minerals & Chemical Corporation
ATTN: Larry Sower
P.O. Box 1190
765 North 10500 West
Ogden, Utah 84402

*Ident.	hydrometer (%) Sand	Silt	Clay	Texture*	mmhos/cm ECe	H_2O-Sol. meq/100g CEC	Ca	Mg	Na	SAR	% Organic Matter	SP*	% Total Nitrogen	ppm $NaHCO_3$ P	K	pH
LM A	65	25	10	SL	2.4	4.6	.07	.11	.21	4.9	.38	22	.01	4.0	325	8.1
B	58	30	12	SL	1.7	7.4	.07	.05	.20	4.9	.38	26	.02	4.8	337	8.0
C	48	40	12	L	2.8	7.6	.15	.10	.51	8.3	.14	31	.02	3.1	201	7.7
D	58	34	13	SL	3.2	12.1	.37	.27	.48	4.4	.14	36	.02	2.9	139	7.9
PROM A	38	2	22	L	.4	16.6	.08	.01	.03	.7	2.10	41	.10	5.1	176	7.9
B	52	48	14	SL	.6	15.1	.04	.03	.08	2.5	.34	29	.01	.9	107	8.2
C	96	2	2	S	.3	1.0	.02	.01	.03	1.4	.07	20	.01	.4	17	8.5
D	21	5	31	CL	.4	13.3	.06	.05	.08	1.4	.31	58	.01	1.1	152	8.2
E	66	56	13	SL	.8	7.1	.08	.04	.05	1.4	.55	24	.03	2.8	97	8.1
F	90	25	5	S	.6	3.6	.04	.02	.06	2.3	.36	22	.02	.5	27	8.4
G	16	11	28	SiCL	3.1	10.8	.10	.06	1.49	22.0	.38	55	.03	2.6	390	8.6
H	62	8	13	SL	2.6	6.7	.23	.14	.18	2.6	1.43	27	.04	9.6	171	7.9
I	82	11	7	LS	.3	3.5	.02	.01	.04	1.5	.19	29	.02	1.1	60	8.4
J	85	8	7	LS	.3	3.4	.04	.01	.02	.7	.38	22	.01	3.6	54	8.4

*LM=Little Mountain, PROM=Promontory
*SP=Saturation Percentage

USU Log #'s 83-782-795 / received on 4/19/83.

*Texture - SL = Sandy Loam
L = Loam
CL = Clay Loam
S = Sand
SiCL = Silty Clay Loam
LS = Loamy Sand

R E Lamborn

COMMENTS AND RECOMMENDATIONS:

pH is acceptable for all but PROM G. The high SAR confirms a probable sodium problem (poor infiltration rate, etc.).

Texture: The sands, loamy sands and some sandy loams will have poor water - holding capacity, and soluble N will leach out easily. Plant drought - resistant varieties.

ECe (soluble salts): Watch for possible salt problems in those testing higher than 1.5 mmhos/cm. Sampling depth and time since latest precipitation (and amount of it) affect test values too much to be more specific on this.

Organic Matter: All but PROM A and PROM H are very low. Anticipate erosion on slopes.

Nutrients

Nitrogen: Total N has no value in predicting N supply to plants. Assume there is no N in the soil. Apply enough to feed the crop (35-50 lbs N per acre without irrigation).

Phosphorus:

Soil Test P	Apply (lbs P_2O_5 / acre)	
9.6	0	
4.0-5.1	50	(These are minimum amounts; you
2.6-3.6	60	may want to double these to
.4-1.1	75	get maximum benefit from applic-
		ation costs.)

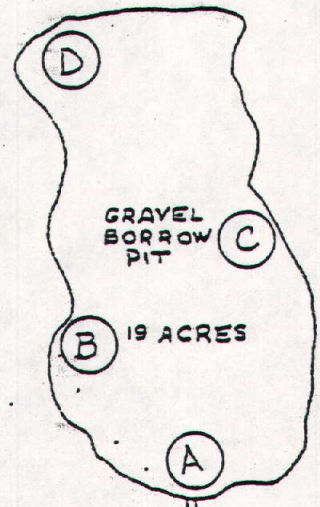
Potassium: Apply 100-200 lbs K_2O per acre to PROM C, PROM F, and possibly PROM I and PROM J.

REL

GSL-CC PROPERTY

SOIL SAMPLING 4/13/83

SAMPLE	% +10 MESH
A	58.3
B	60.7
C	53.9
D	78.6



POWER PLANT

$MgCl_2$ Plant

SPRR

COUNTY ROAD

N

E

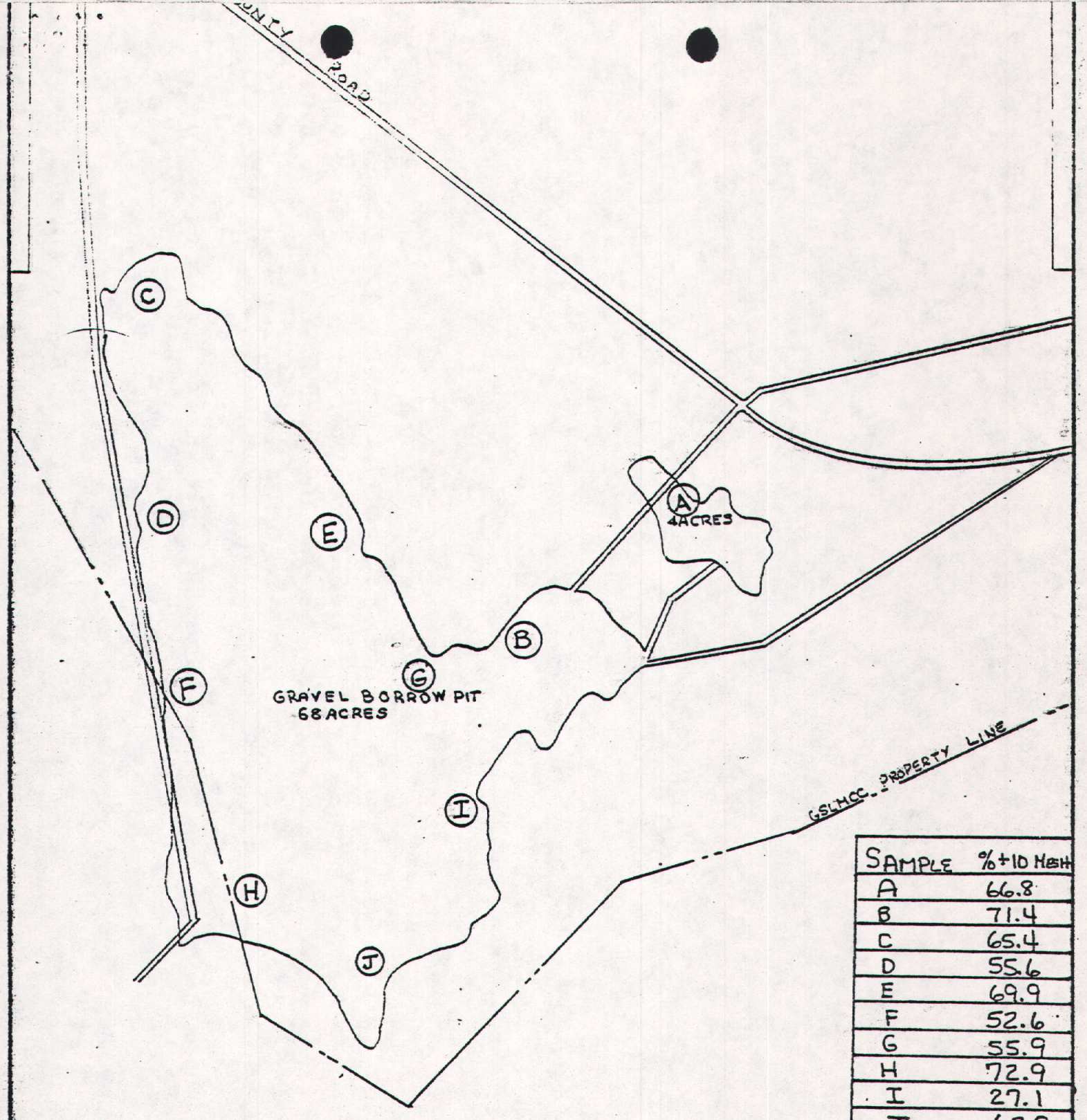
TITLE FIGURE I.
LITTLE MOUNTAIN GRAVEL PIT.
SOIL SAMPLE LOCATIONS

GREAT SALT LAKE MINERALS & CHEMICALS CORPORATION

LOCATION

PROJECT NO.

DWG. NO.



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TITLE FIGURE II
PROMONTORY GRAVEL PIT
SOIL SAMPLE LOCATIONS

DRAWN LE | DATE 1/3/83 | SCALE 1"=400'

GREAT SALT LAKE MINERALS & CHEMICALS CORPORATION

LOCATION

PROJECT NO.

DWG. NO.